# CHAPTER 92. EVALUATE PART 135/135.411(a)(1) OPERATOR'S MAINTENANCE RECORDS

## SECTION 1. BACKGROUND

**1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.**

*A. Maintenance:* 3634

*B. Avionics:* 5634

**3. OBJECTIVE.** This chapter provides guidance to ensure that the operator/applicant creates, preserves, and retrieves the maintenance records required by the regulations.

**5. GENERAL.**

*A. Definitions.*

*(1) Life-Limited Part:* An aircraft part whose service life is limited to a specific number of operating hours, operating cycles, or a specified calendar period. The part must be removed from service at its specified time or cycles-in-service.

*(2) Approved Data:* Drawings, methods, techniques, and materials used to accomplish major repairs or alterations that are approved by the Federal Aviation Administration (FAA) Administrator, (airworthiness inspectors, FAA engineering, manufacturing, or a Designated Engineering Representatives (DER)).

*B.* To comply with the maintenance recording requirements of the regulations, the operator/applicant's maintenance manual must identify and contain procedures that ensures that all applicable documents used by the operator/applicant are completed.

*C.* Title 14 of the Code of Federal Regulations (14 CFR) part 91, § 91.417 has maintenance recordkeeping requirements for the following:

*(1) Airworthiness Directives (AD).* 14 CFR, part 91 requires the current status of applicable AD's, including the date and method of compliance, recurring AD actions, and the time and date when the next action is required.

*(2) Total Time-in-Service.* Part 91 has requirements to maintain total time-in-service records for airframe, engines, propellers, and rotors.

*D. The Manual should Contain Procedures for the Recordkeeping System.* The procedures should address the following requirements of the regulations:

*(1) Total Time-in-Service.* This record may consist of aircraft maintenance record pages, separate cards or pages, a computer list, or other methods as described in the operator/applicant's manual. (Ref. § 91.417(a)(2)(i).)

*(2) Status of Life-Limited Parts.* Life-limited parts, (e.g., components of the airframe, engine, propellers, rotors, and appliances), are identified to be removed from service when a specific time limit or number of cycles has been reached. (Ref. § 91.417(a)(2)(ii).)

*(a)* The current status of the part is a record indicating the operating time limits, total number of hours or accumulated cycles, and the number of hours or cycles remaining before the required retirement time of the component is reached. This record also must include any modification of the part in accordance with AD's, service bulletins, or product improvements by the manufacturer or operator/applicant.

*(b)* The following are not considered a current status record:

- Work orders
- Maintenance installation records
- Purchase requests
- Sales receipts
- Manufacturers documentation of original certification
- Other historical data

*(c)* Whenever the current status of life-limited parts records cannot be established, the airworthiness of that product cannot be determined and it must be removed from service.

*(3) Overhaul List.* The operator/applicant is required to develop manual procedures complying with, § 91.417(a)(2)(iii) for recording the time since the last overhaul of all items installed on the aircraft required to be overhauled on a specified time basis. The items requiring overhaul are listed either in operations specifications or in a document referenced in the operations specifications.

*(a)* The overhaul list includes the actual time-or cycles-in-service since the last overhaul of all items installed on the aircraft.

*(b)* The overhaul list refers to the time since the last overhaul of an item and must not be confused with an

overhaul record, which requires a description of the work and identification of the person who performed and/or approved the work.

*(4)* A record must be made whenever an item of aircraft equipment is overhauled. This overhaul record must describe the work performed. The operator/applicant must have this record or be able to make it available to the Administrator.

*(5) Current Aircraft Inspection Status.* The operator/applicant is required by, § 91.417(a)(2)(iv) to retain a record identifying the current inspection status of each aircraft.

*(a)* The record must show the time-in-service since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.

*(b)* Inspection work packages or routine and nonroutine items generated while performing any part of the inspection program must be retained for one year after the work is performed or until the work is repeated or superseded by other work.

*(6) Current AD Status.* The operator/applicant is required by § 91.417(a)(2)(v) to keep a record showing the current status of applicable AD's, including the method of compliance. This record must include the following:

- List of AD's applicable to the aircraft
- The date and time-in-service or cycles, as applicable
- Method of compliance
- The time-in-service or cycles and/or date when the next action is required (if it is a recurring AD)

*(a)* An acceptable method of compliance may be one of the following:

- Reference to a particular portion of the AD
- Reference to manufacturer's service bulletin, if the bulletin is referenced in the AD
- Reference to any other document generated by the operator/applicant that shows compliance with the AD, such as an Engineering Order or Engineering Authorization.

*(b)* When an Engineering Order/Engineering Authorization is used, the details must be retained by the operator/applicant. If the Engineering Order Engineering Authorization also contains the accomplishment instructions and sign-off, it must be retained indefinitely.

*(c)* An operator/applicant may apply for alternate methods of compliance for accomplishing AD's. Alternate methods of compliance must be approved by the appropriate FAA Engineering Directorate and apply only to the operator/applicant making the application. If an aircraft is transferred to another owner, the alternate method of compliance continues to apply to that aircraft.

*(d)* The operator/applicant's manual must have procedures to comply with new and emergency AD's to ensure that the action is completed within the given time limits. This must include procedures for notifying the responsible individuals to implement the required action during other than routine duty hours.

*(e)* The document that contains the current status of AD's and method of compliance may be different from the record of AD accomplishment.

- The document is a permanent, ongoing historical record of all AD accomplishments and must be retained with the aircraft indefinitely
- The record of accomplishments of an AD must be retained until the work is superseded or repeated, or for one year after the work is performed

*(f)* Serious problems have surfaced during national and routine inspections when the applicable AD current status and method of compliance was not complete. When current status and method of AD compliance cannot be determined from the document, the operator/applicant must verify this compliance.

*(7) Major Alteration.* All major alterations must be accomplished by using FAA-approved data. Previous inspections have identified lack of approved data to support major alterations. Section 91.417(a)(2)(vi) requires operator/applicants to retain records of each major alteration to the following:

- Airframe
- Engine
- Propeller
- Rotor
- Appliance

## SECTION 2. PROCEDURES

### 1. PREREQUISITES AND COORDINATION REQUIREMENTS.

*A. Prerequisites:*

- Knowledge of the regulatory requirements of Title 14 of the Code of Federal Regulations (14 CFR) part 135
- Working experience with operator recordkeeping systems
- Successful completion of the Airworthiness Inspectors Indoctrination Course or equivalent

*B. Coordination.* This task may require local, regional, and/or headquarters coordination.

### 3. REFERENCES, FORMS, AND JOB AIDS.

*A. References:*

- 14 CFR parts 43 and 91
- Operator maintenance records

*B. Forms.* None.

*C. Job Aids.* None.

### 5. PROCEDURES.

*A. Review Office Files.* Review the historical data of the operator's recordkeeping system. This includes the Program Tracking and Reporting Subsystem (PTRS) history of past inspections, Enforcement Information System (EIS), and other office files.

*B. Review the Operator's Maintenance Records.* Analyze the operator/applicant's recordkeeping system. Determine if the regulations' recordkeeping requirements are met. The recordkeeping should provide an acceptable method for creating, preserving, and retrieving required records. All records must contain the following:

- Description of the work performed (or reference to data acceptable to the Administrator)
- The date of completion of the work performed
- The signature and certificate number of the person approving the aircraft for return to service

*(1) Airworthiness Records.* Ensure that the records are retained for one year after the work is performed or until repeated or superseded by other work.

*(2) Total Time-In-Service.*

*(a)* Determine the method of recording total time-in-service of the airframe, engine, propeller, and rotor. This record must show the current time-in-service appropriate parameter.

*(b)* Determine if this record is retained until the aircraft is sold and is transferred with the aircraft upon sale.

*(3) Status of Life-Limited Parts.*

*(a)* Ensure that the operator is tracking the current status of life-limited parts for each airframe, engine, propeller, rotor, and appliance.

*(b)* Determine if this record is retained until the aircraft is sold and is transferred with the aircraft upon sale.

*(4) Time Since Last Overhaul of all Items Required to be Overhauled.* This document must accompany the aircraft when transferred.

*(5) Overhaul Records.* Ensure that the manual describes how the operator documents the last complete overhaul of each engine, propeller, and rotor. These records must be retained until the work is superseded by work of equivalent scope and detail or for one year. The overhaul record may include:

- Disassembly data
- Dimensional check data
- Replacement parts list
- Repair data
- Reassembly/test data
- Reference to data including overhaul specifications

*(6) Current Aircraft Inspection Status.*

*(a)* Determine how the operator records the time-in-service since the last inspection.

*(b)* Determine if procedures ensure that this record is retained until the aircraft is sold and is transferred with the aircraft upon sale.

*(7) Airworthiness Directive (AD) Compliance.* Determine how the operator complies with recordkeeping requirements of the AD's, including emergency AD's. Ensure that there is a record containing the following items:

*(a)* Current Status.

- A list of all AD's applicable to the aircraft
- Date and time of compliance
- Time and/or date of next required action (if recurring AD)

*(b) Method of Compliance.* This includes either a record of the work performed or reference to the applicable section of the AD.

*(c)* Determine if this record is retained until the aircraft is sold and is transferred with the aircraft upon sale.

*(8) Major Alteration Records.* Determine how the operator maintains the records of major alterations to each airframe, engine, propeller, rotor, and appliance.

*C. Inspect the Operator Record System.*

*(1)* Identify the documents/forms that are used for ensuring that the following are accomplished:

- Total time-in-service
- Status of life-limited parts
- Time since last overhaul document
- Overhaul records
- Current aircraft inspection status
- Current status of applicable AD's
- Major alteration records

*(2) Inspect the Records.* During the inspection, document and photocopy any confusing areas, obvious omissions or apparent discrepancies.

*(a)* Compare the records with the actual accomplishment of the maintenance.

*(b)* Obtain and review the maintenance logs to determine the scheduled inspections and nonroutine maintenance.

*(c)* Review maintenance records to ensure that:

- Flight discrepancies were entered at the end of each flight
- Corrective action was related to the discrepancy
- Corrective action and sign-off are entered into the maintenance record
- Repetitive discrepancies are handled properly
- Deferred maintenance as authorized by the minimum equipment list (MEL) is deferred according to the operator's MEL and instructions

*(3)* Select or obtain work packages for scheduled inspections and ensure that scheduled inspections are properly signed off.

*(a)* Ensure that nonroutine items generated were properly signed off.

*(b)* Determine if repairs were categorized correctly (major or minor) and if approved data was used for major repairs.

*(4)* Compare the actual record of accomplishment with the total time/cycles-in-service record for the airframe, engine, propeller and rotor.

*(5)* Select and obtain a total time/cycles-in-service record for a sample number of aircraft to ensure that cumulative flight times/cycles are added to the record.

*(6)* Make a spot check of the cumulative total time/cycle-in-service against the flight logs to ensure that daily entries correspond to the flight log.

*(7)* If the operator maintains a hand-written maintenance record for engines, compare the record entries to the aircraft flight log entries for accuracy and to detect transposition of flight time/cycles-in-service, numbers, etc.

*(8)* Compare the manual procedures for life-limited parts with the actual recording of the current status of life-limited parts.

*(9)* Select a random sample of records and ensure that:

*(a)* All life-limited parts described on type certificate data sheets (TCDS) or a manual referenced in the TCDS are noted.

*(b)* Current status of each part is provided, to include:

- Total operating hours (including calendar time)/cycles accumulated
- Life limit (total service life)
- Remaining time/cycles
- Modifications

*(c)* Ensure that:

- Time/cycles limits on the operator list are the same as those on the TCDS
- Life limits have not been exceeded

*(d)* Select a sample of life-limited items that have been installed within the last 12 months and review records to ensure that life-limited time was carried forward from the previous service record.

*(e)* If overhauled, ensure that the time since overhaul record is available.

*(f)* Ensure that the life limit of an item has not been changed as a result of the overhaul.

*(10)* Compare the overhaul list with the actual record.

*(11)* Identify items in the operator maintenance program that have overhaul requirements, if applicable.

*(12)* Ensure that all items identified are on the current list.

*(13)* Ensure that the overhaul list contains the time/cycles since last overhaul.

*(14)* Ensure that the items on the list have not exceeded their specified overhaul time/cycle limits.

*(15)* Select a random sample of items from the overhaul list to:

*(a)* Ensure that the records contain a description of the overhaul, and that the item was overhauled according to the overhaul specifications by a qualified and authorized person.

*(b)* Ensure the component was approved for return to service by an authorized person.

*(16)* Review the removal/installation records of overhauled components to determine if the overhaul was accomplished within the authorized time limits.

*(a)* Compare the current aircraft inspection status with the record available.

*(b)* Determine whether daily flight hours/cycles are recorded to obtain the current inspection status.

*(c)* Take a random sample of aircraft inspection records and review the last two “C” checks (or equivalent) to ensure that scheduled inspections times/cycles were not exceeded (overflown).

*(17)* Compare the compliance with AD's with the current status of AD document.

*(a)* Contact the operator responsible for AD records and request a random sample of aircraft AD compliance record.

*(b)* Ensure that the document contains all applicable AD's for the sampled aircraft.

*(c)* Ensure that the AD requirements were accomplished within the effective times of the AD, with special emphasis on recurring AD's.

*(d)* Ensure that the AD document contains current status and method of compliance. The current status must include these three items:

- A list of all AD's applicable to the aircraft
- Date and time of compliance
- Time and/or date of next required action (if recurring AD)

*(e)* Ensure that the list is being retained indefinitely.

*(f)* Identify those AD's with alternate methods of compliance, and ensure that the operator has obtained prior approval for that alternate method.

*(g)* Select from the current AD compliance document a number of AD's accomplished within the last 12 months and ensure that the appropriate accomplishment records are available. Review the accomplishment record to ensure the following:

- The method of compliance is as specified in the AD
- The date of compliance is identical to the date on the current status list
- The mechanic is certificated to accomplish the work
- The accomplishment was properly signed off

*(18)* Compare the major alteration and repair records with the actual records.

*(a)* Major Alterations:

- Request a list of all major alterations for a random sample of aircraft
- Ensure that the list contains the date of accomplishment and a brief description of the alteration
- Select a random sample of major alterations accomplished within the last 12 months and ensure that the respective maintenance records show that alterations were accomplished according to approved data

*(b)* Major Repairs:

- Request several records of major repairs, if available
- Ensure that the records contain the date of accomplishment and a brief description of the repair and that the respective maintenance records show that repairs were accomplished according to approved data
- When major repairs or alterations are identified and are not recorded, request the actual maintenance accomplishment record from the operator/applicant

*D. Analyze the Inspection Results.*

*(1)* Determine the effectiveness of the maintenance recordkeeping system. Ineffective recordkeeping systems may be the result of:

- Inadequate/nonexistent procedures
- Not following manual procedures
- Ineffective organization
- Lack of qualified personnel
- Poor scheduling of AD compliance, overhaul requirements, inspections, etc.
- Improper training

*(2)* Compile Deficiencies.

*(a)* Compile all findings that are contrary to the regulations.

*(b)* Compile all findings that are in noncompliance, but are producing satisfactory results.

*(3)* After compiling all findings and before the operator debriefing, consult with the appropriate FAA supervisory personnel to determine which (if any) findings require enforcement actions.

*(4)* If no findings are made, no further action is required.

*E. Meet with the Operator.*

*(1)* Discuss the following items:

*(a)* All discrepancies discovered during the inspection.

*(b)* Possible corrective action.

*(c)* Possible enforcement actions.

*(2)* Inform the operator that official written notification of findings may follow.

**7. TASK OUTCOMES.**

*A. File PTRS Data Sheet.*

*B.* Completion of this task may result in the following:

- Formal letter to operator confirming results of inspection.
- Enforcement action according to FAA Order 2150.3, if applicable

*C. Document Task.* File record of inspection in operator's file in district office according to office procedures.

**9. FUTURE ACTIVITIES.** Normal surveillance.